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PREFACE

TO THE

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To facilitate the acquisition of the leading principles ought to be the first object of an elementary book ; and most of all ought we to study simplicity in a work treating of Anatomy. When the way is smoothed, the student feels a rapid progress, and is pleased with his own exertions ; and it requires only a little self-examination to be assured that much of our partiality for any particular line or object of study, often results from a real or fancied superiority of knowledge ; perhaps in Anatomy, more than in any other pursuit, it is necessary to make the student sensible of his progress, before he can feel any thing like enthusiasm, or even partiality for it.

It is upon the simplicity of these Plates, therefore, more than upon their elegance, or their accuracy, (though I am confident that in

this last respect they are not deficient,) that I would place their merit. When the importance of the study of the Arteries is considered—a point so fully enforced and illustrated in the volume of the text to which I mean these plates to be attached—this book must, I think, be an acquisition to the student, since I am conscious that I should myself have found it to be so in the commencement of my studies; it is with this feeling that I offer it with confidence to the public. I am assured, also, that the study of the Blood-vessels and Nerves from Plates, prepares us better for undertaking any surgical operation than that of bare description, however accurate, however simple, or however constantly the true practical inferences may be kept in view. It is upon the eye that the impression must be made, which is to enable us, in looking upon a limb, to mark the course of the Arteries: Drawings are a kind of notes, too, more easily consulted; and bring to the mind, in a more lively manner, all that was associated in our first studies.

IN following the course of the Arteries, we must have continual occasion to observe, that if one branch deviate from the more general

course, or be of an unusual size, the neighbouring branches have also an unusual form. In the arteries of the arm, for example, were we to observe the great Thoracic Artery of an uncommon size, and sending large branches under the *Latissimus Dorsi*, and under the *Scapula*; were we to take our drawings of this Artery as an example of a beautiful distribution of the external Mammary Artery, without attending to the effect of such distribution on the Subscapular Artery; or again, were we to draw the Subscapular Artery of the great comparative size which it not unfrequently takes; we should not give a just representation of the natural and most usual distribution of those arteries: for, as we find that the distribution of the Thoracic Arteries materially affects the distribution of the Articular Arteries and of the Profunda, although it be absolutely necessary in the text to describe the size and importance of this Artery, because in our operations at this part we must keep in view the more dangerous and unfavourable circumstances, it does not follow that we are to make our drawings by the same rule; we should by doing so make them monstrous and unnatural.

WE thus see the necessity of combining drawing with description. In the latter we mark all the variety of distribution, and the peculiarities of each branch considered individually ; but this again naturally produces intricacy, unless, by comparison with the drawings, and their short explanations, we can take a rapid and general view of the course of the vessels. The drawings ought, therefore, to give the representation of the more general distribution, while the varieties and peculiar forms are left to description. And here comes a question of some consequence—How is a selection from the great variety of distribution of the vessels and nerves of the body to be made ?

I CANNOT agree with the opinions most prevalent regarding Anatomical Tables, that it is impossible to make a true representation of the parts from any individual body ; for, as we see, in looking over the variety of Anatomical Tables, that those which have the characters of the parts distinctly marked, and have been evidently drawn from the parts dissected and laid out before the artist, are in greatest esteem for the accuracy of the anatomy, and best bear the only true test of

excellence, the immediate comparison with the subject in the dissecting room ; so, on the other hand, those made by first drawing the outlines of the parts, and then the vessels, are plans merely, in which the character of the parts, and the peculiar course and turnings of the vessels, are lost. Indeed I suspect that it has been from a want of knowledge of drawing that the system of composing plans of the anatomy, instead of making accurate drawings, has obtained so generally.

But I hope I shall not be understood to say, that if a drawing be made accurately from the subject, it will therefore answer all the purposes required. Of twenty bodies, not one, perhaps, will be found fit for drawing; but still I conceive that we are not to work out a drawing by piecing and adding from notes and preparations ; we are to select carefully from a variety of bodies, that which gives largeness of parts, where the characters of parts are well marked, and where there is the most natural and usual distribution of vessels. In making our drawings of such dissections, let us allow ourselves no licence, but copy accurately. By noting in the description any little deviation, every necessary end is answered.

I HOPE that I have been able to make these Plates simple, intelligible, and accurate. While the design of this book of Plates is to present to the student, at one glance, the general distribution of the vessels, and to fix them in his memory in a way which no description can accomplish, it will be found to give the most usual distribution of the branches; for I have been careful in the selection of my subjects.

IN studying the Arteries, or any part of Anatomy, we should, in the first place, run the eye over the corresponding plate, then read the general description in the text; and lastly, proceed to study more closely, step by step.

I KNOW the difficulties which the student must encounter in acquiring a comprehensive knowledge of the nerves; the books on that subject being more confused and intricate to study, than the most irregular dissection. The next part, therefore, of this work, comprehends the NERVOUS SYSTEM, though the present book I conceive to be complete in itself.

PREFACE

TO THE

THIRD EDITION.

IN this edition, I trust I have shewn my regard for the approbation of the public, already bestowed upon this little work, by endeavouring to improve it.

I HAVE added a Plate of the Aortic System, by my young friend and pupil, Mr. Charles Cheyne, whose steady pursuit of that science to which I am devoted, has gained my esteem and confidence. I have added some other Plates, and I have etched most of the Plates with my own hand, preferring accuracy to elegance. I have often had to regret in the former editions of my work, that my intentions were entirely mistaken by the publishers and the artists employed.

I HAVE also added, in foot-notes, some schemes of arrangement of the more intricate branches.

THE most essential addition, however, which I have made, is the introduction of some rules for cutting down upon the Arteries, in cases of dangerous bleedings. They were taken by a pupil, from my public lectures on the Arteries, while I had the subject before me, and was describing and measuring the depth of parts, previous to entering upon the rules deducible from the projecting points of bone, and the course of the tendons and muscles in the living body.

LONDON, }
34, *Soho-Square.* }

Fig. I.

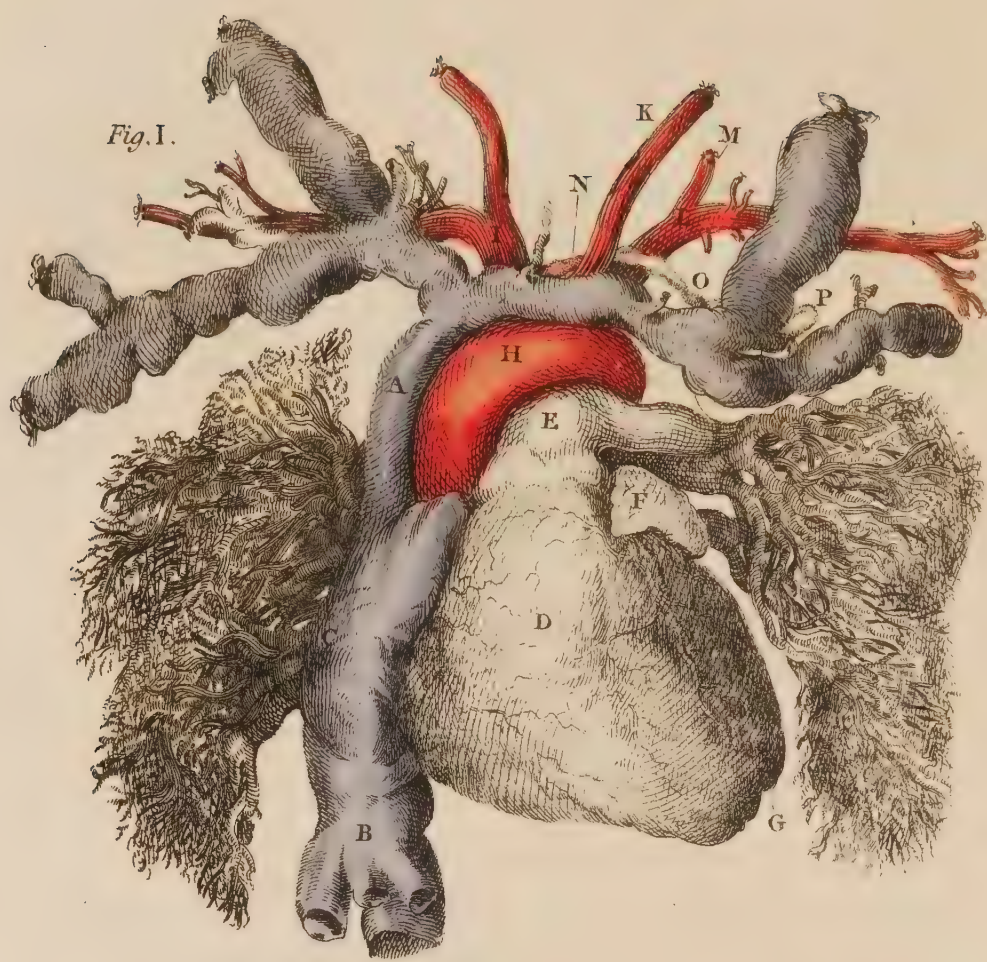
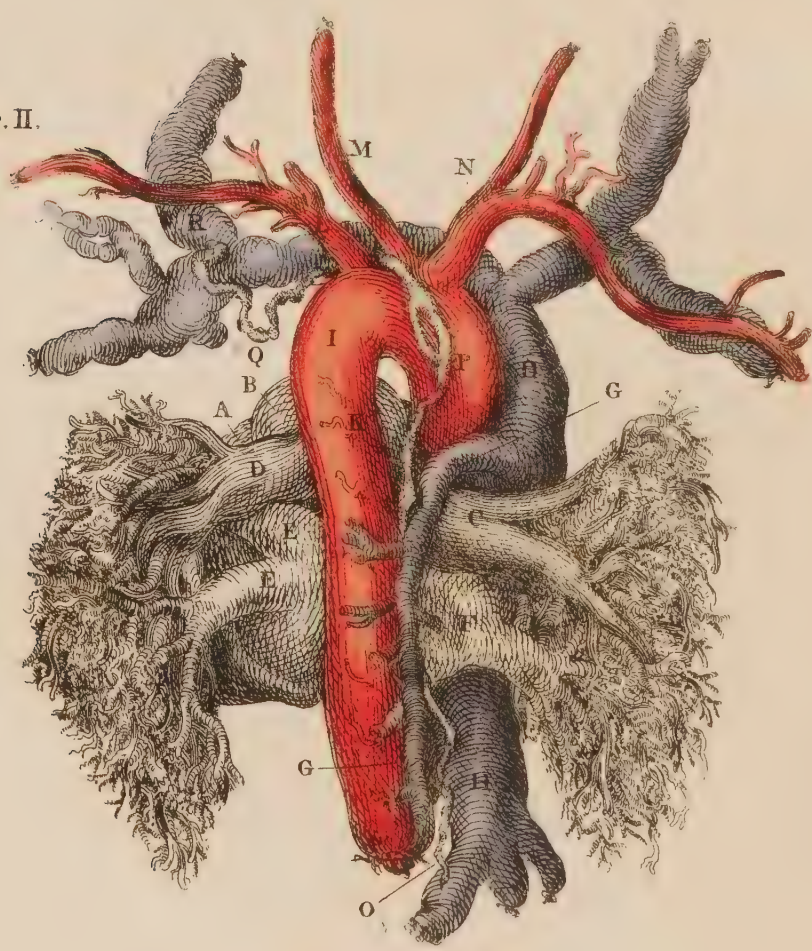


Fig. II.



EXPLANATION

OF

PLATE I.

FRONT AND BACK VIEWS OF THE HEART.

FIG. I.

*A View of the Heart, nearly in the Situation in which it
is seen when the Breast is opened.*

- A. The SUPERIOR VENA CAVA, returning the blood from the head and arms.
- B. The INFERIOR CAVA, where it pierces the diaphragm to convey the blood from the lower parts of the body into the right auricle. The three vessels which join the Cava here are the *Venæ Cavæ Hepaticæ*.
- C. The RIGHT SINUS, or AURICLE.
- D. The RIGHT VENTRICLE.

- E. The PULMONARY ARTERY; it is seen to divide; one branch to pass under the arch of the aorta, to the lungs of the right side; the other to take an acute turn to those of the left side.
- F. Part of the Left Sinus of the heart, or that which is properly the auricle.
- G. The LEFT VENTRICLE; it is seen Fig. II. A.
- H. The Arch of the AORTA.
- I. The Arteria Innominata giving off the SUBCLAVIAN and CAROTID of the right side.
- K. The CAROTID ARTERY of the left side.
- L. The SUBCLAVIAN ARTERY of the left side.
- M. The VERTEBRAL ARTERY of the same side.
- N. The THORACIC DUCT where it lies near the arch of the Aorta, and behind the root of the great arteries.
- O. The THORACIC DUCT where it passes across the root of the neck.
- P. The Termination of the THORACIC DUCT in the union of the Subclavian and Jugular Veins.



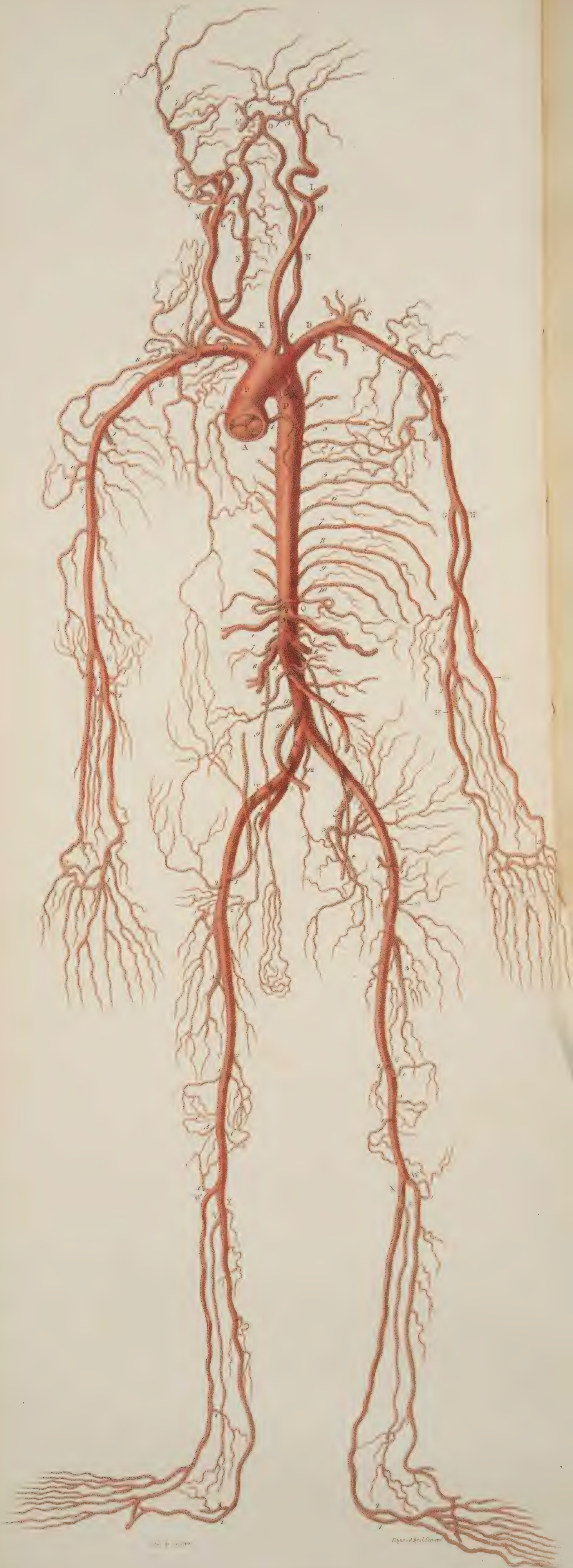
FIG. II.

Back View of the Heart and Vessels.

- A. The LEFT VENTRICLE of the Heart.
- B. The Trunk of the PULMONARY ARTERY.
- C. The Right Branch of the Pulmonary Artery.
- D. The Left Branch of the Pulmonary Artery.
- E.E. The Pulmonary Veins of the left side, entering the left sinus of the heart.
- F. The Pulmonary Veins of the right side.

- G.G. The *VENA SINE PARI*, or *AZYGOS* ; this vein lies upon the spine, collects the blood from the back part of the thorax, and conveys it to the superior vena cava.
- H. The *SUPERIOR* and *INFERIOR VENÆ CAVÆ*.
- I. The *Aorta*, where it first touches the spine.
- K. One of the *Bronchial Arteries*, going to supply the lungs.
- L. The *LEFT AXILLARY ARTERY*.
- M. The *LEFT CAROTID ARTERY*.
- N. The *ARTERIA INNOMINATA*, or common origin of the subclavian and carotid arteries of the right side.
- O. The *THORACIC DUCT*, where it lies upon the spine and near the *AORTA*.
- P. The *THORACIC DUCT*, where it has ascended.
- Q. The same duct, now the principal trunk of the absorbent system, where it lies betwixt the root of the arteries to the head and arms and the branch of the *Superior Cava*.
- R. The trunk of the *Absorbents* entering the left *Subclavian Vein*.

SCHEME of the ARTERIAL SYSTEM.



EXPLANATION

OF THE

PLATE OF THE AORTIC SYSTEM.

PLATE II.

<i>Principal Divisions of the Arteries.</i>	<i>Branches of the Arteries.</i>
---	----------------------------------

A. VALVES of the AORTA.

B. The ASCENDING AORTA	{ 1. The Left Coronary Artery. { 2. The Right Coronary Artery.
------------------------	---

C. The ARTERIA INNOMINATA.

D.D. The SUBCLAVIAN ARTERIES	{ 1. The Vertebral Artery. { 2. The Internal Mammary. { 3. The lower Thyroid Artery. { 4. The ascendant Branch of the Thyroid. { 5. The Transversalis Colli. { 6. The Transversalis Humeri. { 7. The first and second Intercostals. { 8. The Suprascapularis.
------------------------------	--

*Principal Divisions of the
Arteries.*

Branches of the Arteries.

E.E. AXILLARY ARTERY	{ 1. Superior Thoracic Artery. 2. Thoracica Longior. 3. Thoracica Humeraria. 4. Subscapularis. 5. Circumflexa Posterior. 6. Circumflexa Anterior.
F.F. The BRACHIAL ARTERY*	{ 1. Profunda Humeri Superior. 2. Anastamoticus Major.
G. The RADIAL ARTERY	{ 1. Recurrens Radialis Anterior. 2. Arteria Superficialis Volæ. 3. Arteria Palmaris Profunda.
H. The ULNAR ARTERY	{ 1. Recurrens Ulnaris Anterior. 2. Recurrens Ulnaris Posterior. 3. Arteria Dorsalis Ulnaris. 4. Arteria Palmaris Profunda.
I. INTEROSSEOUS ARTERY	{ 1. Interossea Superior Perforans. 2. Recurrens Interossea.
K. CAROTID ARTERY.	
L. EXTERNAL CAROTID	{ 1. Arteria Thyroidea Superior. 2. Arteria Lingualis. 3. Arteria Labialis or Facialis. 4. Arteria Occipitalis. 5. Posterior Auris. 6. Arteria Maxillaris Interna. 7. Arteria Transversalis Faciei. 8. Arteria Temporalis.
M. INTERNAL CAROTID	{ 1. Arteria Anterior Cerebri. 2. Arteria Media Cerebri. 3. Arteria Communicans.

* On the left side there is a high bifurcation of the artery.

*Principal Divisions of the
Arteries.*

Branches of the Arteries.

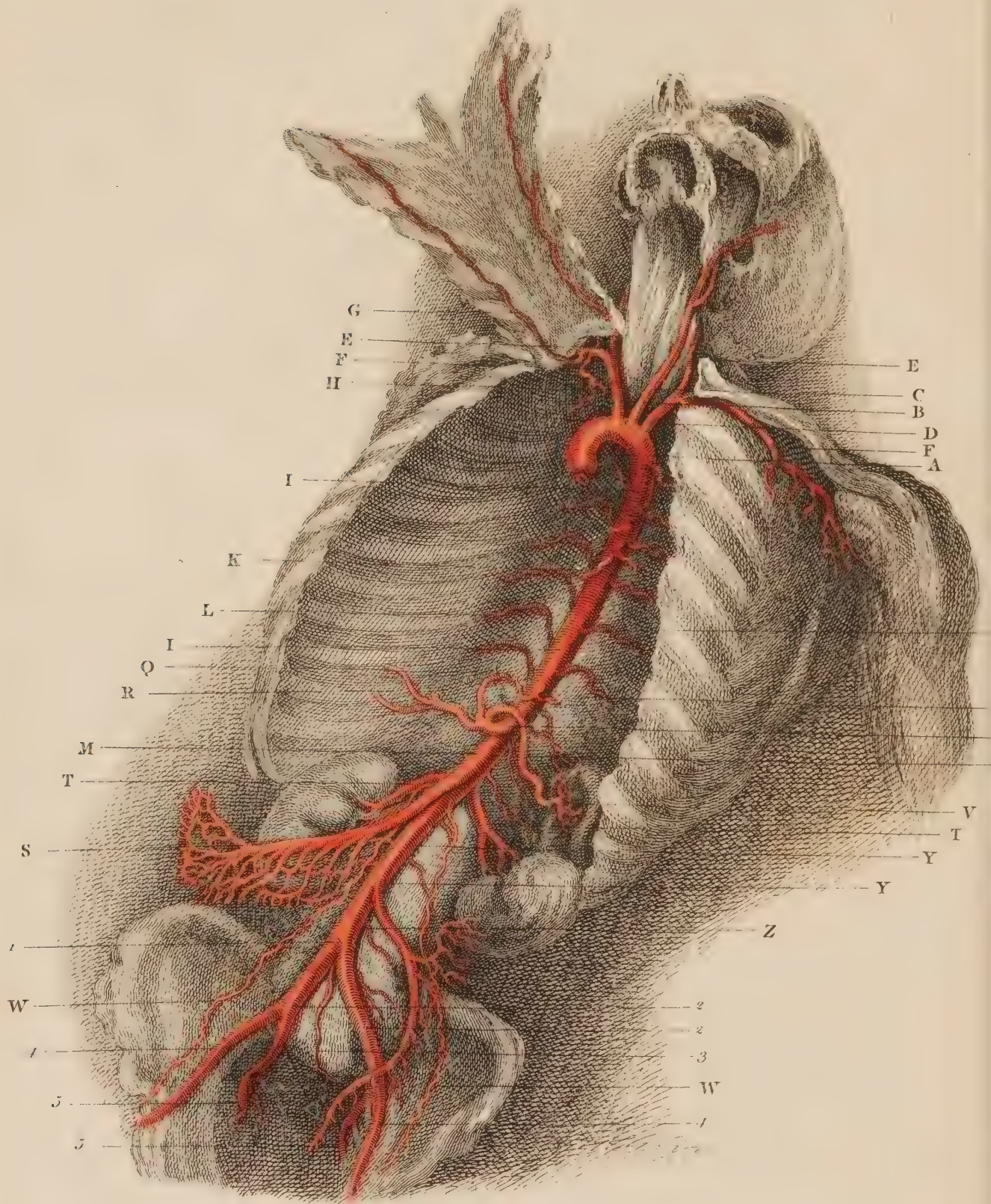
N. VERTEBRAL ARTERY	{	Arteria Cerebelli Posterior and Anterior.
O. BASILAR ARTERY	{	1. Arteria Communicans. 2. Arteria Cerebri Posterior.
P. THORACIC AORTA	1 2 3 4 5 6 7 8 9 10	Art. Intercostales.*
Q. ABDOMINAL AORTA	{	1. Arteria Phrenica. 2. Arteria Cæliaca. { 3. Coronaria Ventriculi. 4. Arteria Hepatica. 5. Arteria Splenica. 6. Mesenterica Superior. 7. Arteriæ Capsulares. 8. Arteriæ Emulgentes. 9. Arteriæ Spermaticæ. 10. Mesenterica Inferior. 11. Arteriæ Lumbares. 12. Arteria Media Sacra.
R. COMMON ILIAC ARTERY.		
S. INTERNAL ILIAC	{	1. Arteria Obturatoria. 2. Arteria Glutea. 3. Arteria Ischiatica. 4. Arteria Pudica.
T. EXTERNAL ILIACS	{	1. Arteria Epigastrica. 2. Circumflexa Ilii.
U. FEMORAL ARTERY	{ 3. Profunda Femoris	{ 1. Circumflexa Externa. 2. Circumflexa Interna. 3. Perforantes.

* The Aorta, when it is behind the root of the lungs, gives three or four arteries to nourish their substance, called Bronchial Arteries. Lying beside the Œsophagus, also, it gives to it a few arteries, the Œsophageal Arteries.

*Principal Divisions of the
Arteries.*

Branches of the Arteries.

V. POPLITEAL ARTERY	{	1. Arteria Articularis Superior Externa.
		2. ————— Interna.
		3. ————— Media.
		4. ————— Inferior Externa.
		5. ————— Interna.
W. ANTERIOR TIBIAL ARTERY	{	1. Recurrens Tibialis Antica.
		2. Malleolaris Interna.
X. POSTERIOR TIBIAL ARTERY	{	1. Plantaris Externa.
		2. ————— Interna.
Y. FIBULAR ARTERY.		



Drawn by C. Bell.

Etched by J. Stewart.

EXPLANATION

OF

PLATE III.

-
- A. ARCH of the AORTA.
 B. ARTERIA INNOMINATA.
 C. ——— CAROTIS COMMUNIS SINISTRA.
 D. ——— SUBCLAVIA.
 E. ——— VERTEBRALIS.
 F. ——— AXILLARIS.
 G. ——— MAMMARIA INTERNA.
 H. ——— INTERCOSTALIS SUPERIOR.
 I.I. ——— AORTA THORACICA.
 K. ARTERIÆ ÆSOPHAGEÆ.
 L.L. ——— INTERCOSTALES INFERIORES.
 M. ABDOMINAL AORTA.
 N. ARTERIÆ PHRENICÆ.
 O. ARTERIA CÆLIACA.

Branches of the CÆLIACA {

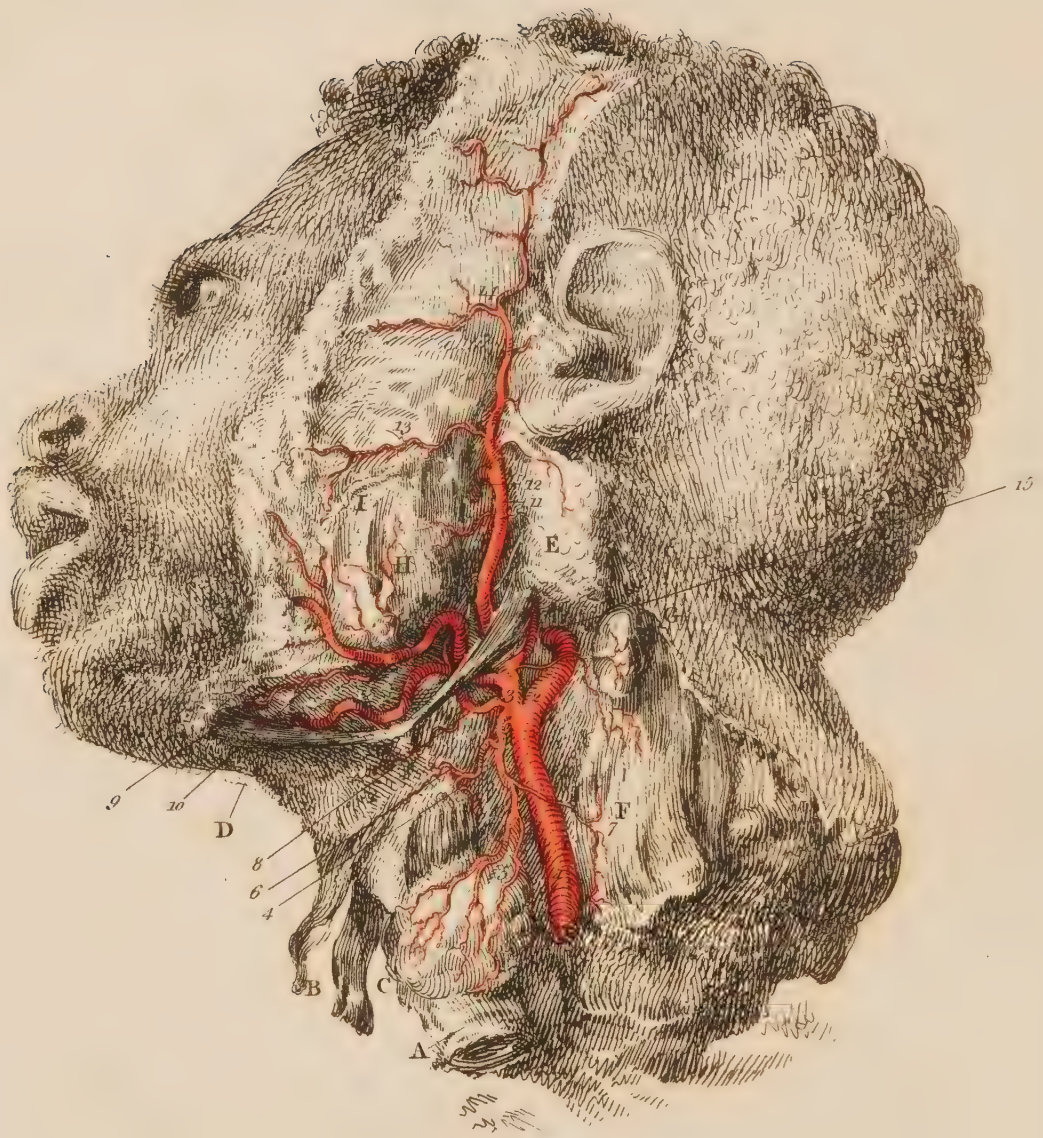
 P. Arteria Splenica.

 Q. — Coronaria Superior Ven-

 triculi.

 R. — Hepatica.

- S. MESENTERICA SUPERIOR.
- T. ARTERIÆ EMULGENTES.
- V. ——— CAPSULARES.
- W.W. ——— SPERMATICÆ.
- Y. ARTERIA MESENTERICA INFERIOR.
- Z. One of the Lumbar Arteries.
- 1. Bifurcation of the Aorta.
- 2.2. Arteriæ Iliacæ Communis.
- 3. ——— Sacra Media.
- 4.4. ——— Iliacæ Externæ.
- 5. Ramifications of the internal Iliac Artery.



ARTERIES OF THE HEAD.

EXPLANATION

OF

PLATE IV.

FINDING in the head of this black the most common and regular distribution of the branches of the Carotid Artery, I took this sketch from it. It is an etching, without a touch of the graver. The appearance of the eye and mouth is neither like the living or the dead, but those accustomed to anatomy will perhaps recognise the turgescence of the Injected Head.

The neck and part of the face is dissected.

- A. The TRACHEA, or windpipe.
- B. Muscles of the fore part of the Throat, viz. *Sterno-Hyoideus* and *Sterno-thyroideus*.
- C. The THYROID GLAND.*

* *Thyroid Gland*. This is one of the glandular bodies the nature and function of which we are entirely ignorant. But it is important to know that it swells with the irregularities of the female system; that it is often enlarged and yet harmless; that it is the seat of the Goitres; that it is sometimes scirrhus and hard, and the cause of suffocation.

- D. The *Digastricus* or *Biventer Maxillæ Inferioris*. This double-bellied muscle is preserved here to mark the relation of the principal branches of the external Carotid Artery.
- E. The PAROTID GLAND: it is dissected back from the jaw, to shew the course of the Artery.
- F. The muscle *Sterno-Cleido-Mastoideus*.
- G. An Enlarged Lymphatic Gland, of the cluster called *Concatenatæ*.
- H. The *Masseter* Muscle.
- I. The Duct of the Parotid Gland cut across.

ARTERIES.

- 1. CAROTIS COMMUNIS. This, the Common Carotid Artery, gives off no small branches, but divides near the angle of the jaw.
- 2. CAROTIS INTERNA or CEREBRALIS.* This Internal Carotid Artery makes so sudden an angle here, that it is indeed (especially when injected) the most superficial of the two grand divisions.
- 3. CAROTIS EXTERNA SUPERFICIALIS. This External Carotid Artery divides into seven principal branches, which now follow:
- 4. ARTERIA THYROIDEA. The branches of the Thyroid Artery are these :
 - 5. Thyroidea propria.
 - 6. Laryngea, to the epiglottis, and muscles of the arytenoid cartilage.
 - 7. Superficialis, muscularis, viz. to the sternocleido mastoideus, to the sternohyoidei, and thyroidei, to the thyro-hyoideus.

* *Carotis Interna* lacerated. *Surgical Observations by Mr. Abernethy.*

8. **ARTERIA LINGUALIS.** The Artery of the Tongue lying deep, and in shadow, I cannot put letters on its branches, which are these :

- | | |
|---|--|
| { | Sublingualis. |
| | Dorsalis linguæ. |
| | Ranina. |
| | Branches irregularly to the
muscles of the tongue and
pharynx. |

9. **ARTERIA FACIALIS.** See the succeeding plate 1.
10. The *Submentalis*, a branch of the last.
11. The continued trunk of the **EXTERNAL CAROTID ARTERY.**
12. The **ARTERIA MAXILLARIS INTERNA.** Going behind the lower jaw. See 10 of the succeeding plate.
13. The **ARTERIA TRANSVERSALIS FACIEI.**
14. The **ARTERIA TEMPORALIS.**
15. The **OCCIPITALIS.**

Fig. 1.

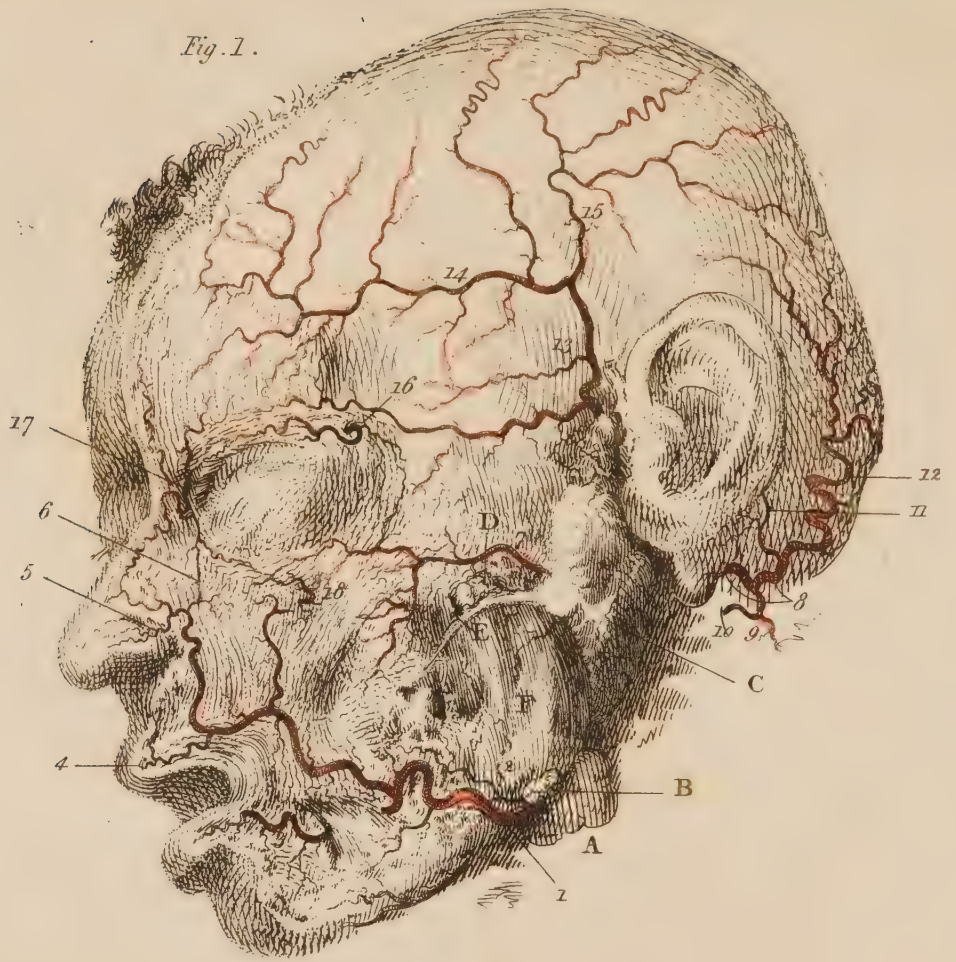


Fig. 2.



ARTERIES OF THE HEAD.

EXPLANATION

OF

PLATE V.

IN this Plate the Arteries of the FACE are further prosecuted.

Fig. I. a Dissection of the Face.

A. The SUBMAXILLARY GLAND.*

B. A Lymphatic Gland, which is constant in place, lying near the Submaxillary Gland, and close upon the facial artery.

* *Submaxillary Gland.* This is a Salivary Gland, and of course associated with the Parotid Gland, C. As the nature of tumours in this part is often a subject of consultation, the dissector ought carefully to attend to its relations. He finds near it the facial artery, covered by the *Platysma Myoides*, a thin cutaneous muscle; but he has especially to observe the place of the Lymphatic Gland, B, which is so much more frequently diseased than the Salivary one. I have had to cut out this Lymphatic Gland, and know its appearance in this state. I have assisted a friend in the same operation, when he was convinced, (and insisted upon it,) that he was extirpating the Submaxillary Gland. See what is said *System of Dissections*, vol. ii. p. 245, 250.

- c. The **PAROTID GLAND**, the largest of the Salivary Glands.
 It is seen here to rise before the ear, and to stretch down betwixt the mastoid process of the temporal bone and the jaw-bone.*
- d. The **SOCIA PAROTIDIS**, a small gland of the Salivary kind, which adds its duct to that of the Parotid Gland.
- e. The **DUCT** of the **PAROTID GLAND**, which passes through the buccinator muscle, and opens into the mouth.†
- f. The **Masseter Muscle**.

ARTERIES.

1. The **ARTERIA FACIALIS**, mounting over the base of the lower jaw-bone.‡ After this its branches are :
- | | |
|---|---|
| { | 2. To the Masseter.
3. <i>Coronaria labii inferioris</i> .§
4. <i>Coronaria labii superioris</i> .
5. <i>Nasalis lateralis</i> .
6. <i>Angularis</i> inosculating with the ophthalmica. |
|---|---|

* *Parotid Gland*. Observe also that sometimes there is found lying on the parotid, or in its substance, a lymphatic gland, which may be diseased, and which I have seen diseased, and taken out from its socket in the gland. We ought also to attend to the vessels passing through the parotid gland, particularly the continued branch of the external carotid, the going off of the internal maxillary, and the transversalis faciei. (See Fig. II.) We shall be convinced from the actual view of the parts, that with the knife, it is impossible to extirpate the parotid gland. *System of Dissections*. The gland and duct represented in *Cooper's Myotomia*, tab. xxii. c.c.d.

† *Parotid Duct*, or Steno's Duct, from the discoverer. More attention ought to be paid to the situation of this duct than to the arteries of the face; for if cut by accident, or in operation, it forms a most troublesome salivary fistula. See *Operative Surgery*, vol. ii. p. 26.

‡ *Facial Artery*, or *Labialis*, or *Maxillaris Externa*, or *Angularis*, often tortuous before rising over the jaw. *Haller Icon. Arter. Cap.* tab. ii. E. iii. 28. *Cooper's Myotomia*, plate XXII. o.o.o. The artery is not in its place at F, tab. XXIII. This artery left untied in operation, almost suffocating the patient afterwards. See *Abernethy's Surgical Observations*.

§ A very small branch of the internal maxillary artery (fig. 2.) comes

7. *ARTERIA TRANSVERSALIS FACIEI.* Coming from under the Parotid Gland, and supplying the muscles and fat of the cheek.*

8. *ARTERIA OCCIPITALIS.*† Tortuous, as all the arteries are which rise on the head. The branches are :

- | | |
|---|-----------------------------------|
| { | Meningea. (not seen here) |
| | 9. <i>Cervicalis descendens.</i> |
| | 10. <i>Vertebralis.</i> |
| | 11. <i>Auricularis.</i> |
| | 12. <i>Occipitalis ascendens.</i> |

13. *ARTERIA TEMPORALIS.*

14. *Temporalis Anterior.*

15. *Temporalis Posterior.*‡

out through the mental foramen and inosculates here, with the facial artery. See *Hal. Icon. tab. Faciei Arter.*

* *Transversalis Faciei.* This is sometimes a more considerable artery, and encroaches on the office of the *Facialis*. It is here a little raised from its place, and ought to have been nearer the Parotid Duct. This artery I have seen bleed very smartly. In cuts of the face, when either this or any of the other arteries of the face are opened, we have only to use the twisted suture, taking care to pass the needle so near the bleeding orifice that it may receive the full operation of the thread when twisted round the needle or pin ; this secures the artery, and at the same time brings the lips of the wound neatly together. See *Operative Surgery*.

† OF THE EXACT PLACE OF THE OCCIPITAL ARTERY.

The occipital artery is found immediately under the mastoid process ; from under the insertion of the mastoid muscle it runs backwards, on a level with the tip of the ear, under the insertion of the trapezius, and, of course, under the superior transverse ridge of the occipital bone. On the side of the neck, the internal jugular vein is immediately under it ; it is under the origin of the digastricus muscle.

‡ *Temporalis*, the superficial branches are two in number, viz. the anterior and posterior, the middle also arises from this, but is under the fascia ; and the deep Temporal is a branch of the *Arteria Maxillaris Interna*.

16. *Palpebralis* a branch of the *Ophthalmica Cerebralis*.
17. *Frontalis*, a branch of the *Ophthalmica Cerebralis*.
18. *Infra-Orbitalis*, a branch of the *Maxillaris Interna*.



FIG. II.

Showing the course of the Internal Maxillary Artery. The lower jaw is taken away, the Parotid Gland raised up, and the dissection of the External Carotid Artery prosecuted.

- A. The Palate.
- B. The Parotid Gland dissected back.
1. The COMMON CAROTID ARTERY.
2. The THYROID, the first branch of the External Carotid.
3. The LINGUAL and FACIAL ARTERIES, coming off together.
4. The continued trunk of the EXTERNAL CAROTID.
5. The PHARYNGEAL ARTERY.
6. The INTERNAL CAROTID ARTERY.*
7. The ANTERIOR ARTERY of the EAR.
8. The TRANSVERSE ARTERY of the FACE.
9. The TEMPORAL ARTERY.
10. The INTERNAL MAXILLARY ARTERY.

* *Internal Carotid*. In Dr. Hooper's collection of preparations there is a curious example of the ulceration of this artery. A man intending to destroy himself, attempted to swallow pins tied together; they stuck in the pharynx, and in time penetrated to this artery, which suddenly cut him off.

The principal branches of the ARTERIA MAXILLARIS INTERNA, are the following :

- | | |
|---|---|
| { | 11. <i>Aa. Maxillaris Inferior.*</i> |
| | 12. <i>Temporalis Profunda.</i> |
| | 13. <i>Meningea Media.†</i> |
| | 14. <i>Alveolaris</i> , (to the upper jaw.) |
| | 15. <i>Infra Orbitalis.</i> |
| | 16. <i>Buccalis.</i> |
| | 17. <i>Nasalis.‡</i> |

* *Maxillaris.* This artery enters at the posterior foramen of the lower jaw-bone, and courses within the bone, and appears on the chin, coming out through the mental foramen. See what is said on the bleeding of small arteries from bone, in my *Operative Surgery*. In pulling the last Molaris of the Lower Jaw, if the inner plate of the bone be broken off, and this artery torn up among the cells of the bone, the patient may die of bleeding.

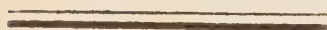
† *Meningea.* This artery enters the skull by the foramen spinale of the sphenoid bone, and is the same that makes the deep furrow in the inside of the Parietal Bone. See Remarks, *Principles of Surgery*, vol. ii. part ii. p. 298. Mr. Walker of Edinburgh communicated to me a case where an arrow shot into the skull wounded this artery.

‡ *Nasalis.* This artery being a principal one of the exposed Vascular Membrane of the nose, bleeds profusely in cachexies, when a little blood lost may be full of danger. Of the manner of stopping this hæmorrhagy from the nose, see *Operative Surgery*, vol. i.

EXPLANATION

OF

PLATE VI.



*Being a View of the Course of the Internal Carotid Artery,
and the Vertebral Artery, as seen upon making a vertical
Section of the Head.*

FIG. I.

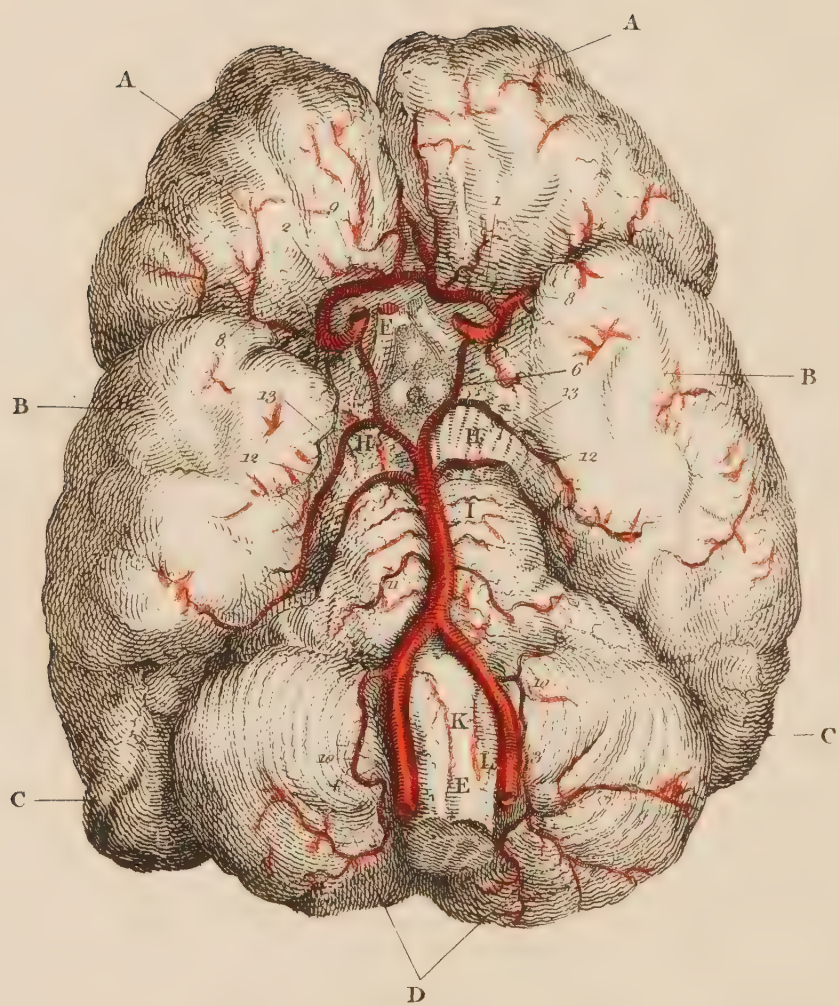
- A. The Upper Jaw Bone; part of it is torn away.
- B. The Lower Jaw Bone; all the angle of the right side is taken away.
- C. The Tongue.
- D. The Antrum Highmorianum, torn open.
- E. The Vertebrae of the Neck, cut to show the passage of the artery, encased in the bones.
- F. F. The Scull-cap, sawn through parallel to the longitudinal sinus.
- G. The Falx, which divides the hemispheres of the Brain.

- H. The Longitudinal Sinus.
- I. The Fourth Sinus, returning the blood from the lower sinus of the falx, and from the vena Galeni.
- K. Right Lateral Sinus.
- L. The Tentorium, which covers the cerebellum, and supports the posterior lobes of the cerebrum.

ARTERIES.

1. The COMMON CAROTID ARTERY.
2. The INTERNAL CAROTID ARTERY.
3. The EXTERNAL CAROTID ARTERY.
4. The VERTEBRAL ARTERY; the processes of the vertebræ being cut away.
5. The last and violent turn of the Vertebral Artery, before entering the foramen magnum of the occipital bone.
6. The violent contortions of the Internal Carotid Artery, before entering the skull.
7. The point of the Internal Carotid Artery, where, after making its turns in its passage through the bone, it appears by the side of the sella Turcica.
8. The OPHTHALMIC ARTERY, derived from the carotid. It is this artery which is seen to inosculate with the Facial Artery, in the preceding Plate, at 17. fig. 1.
9. The THYROID ARTERY.
10. The LINGUAL ARTERY.
11. The FACIAL ARTERY cut short; it is seen in the 4th Plate, fig. 9, passing over the jaw.
12. The Continued Trunk of the External Carotid Artery; it is about to divide into the temporal and internal maxillary arteries. See the preceding Plate, fig. 2. (10.)
13. The TEMPORAL ARTERY, cut short.

14. The INTERNAL MAXILLARY ARTERY.
15. That Branch of the Internal Maxillary Artery, which passes into the lower jaw.
16. The GREAT or MIDDLE ARTERY of the DURA MATER; a branch of the internal maxillary.



Drawn by C. Bell.

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EXPLANATION

OF

PLATE VII.

ARTERIES OF THE BRAIN.

DIVISIONS OF THE BRAIN.

- A. A. The Anterior Lobes of the Cerebrum.
- B. B. The Middle Lobes of the Cerebrum.
- C. C. The Posterior Lobes of the Cerebrum, which rest upon the tentorium.
- D. The Right and Left Lobes of the Cerebellum.
- E. The MEDULLA OBLONGATA.
- F. The OPTIC NERVES, cut at their union.
- G. The CORPORA ALBICANTIA; the INFUNDIBULUM is seen betwixt these and the optic nerves.
- H. H. The CRURA CEREBRI.
- I. The PONS VAROLII, or Tuberculum Annulare.

K. The Eminences of the Medulla Oblongata, called **CORPORA PYRAMIDALIA**.

L. The **CORPORA OLIVARIA**.

ARTERIES.

- 1, 2. The Right and Left Carotid Arteries, raised with the brain, and cut off as they rise at the point marked in the preceding Plate (7.), that is, as they rise by the side of the sella Turcica.
- 3, 4. The Right and Left **VERTEBRAL ARTERIES**.
5. The union of the Vertebral Arteries to form the **BASILAR ARTERY**.
6. The Communicating Artery, or Anastomosis, betwixt the Basilar Artery and Carotid.
7. The Union of Communication betwixt the carotids of each side by the anterior artery of the cerebrum; these anastomosis 6 and 7 form the **CIRCLE OF WILLIS**.

DIVISIONS OF THE INTERNAL CAROTID ARTERY.

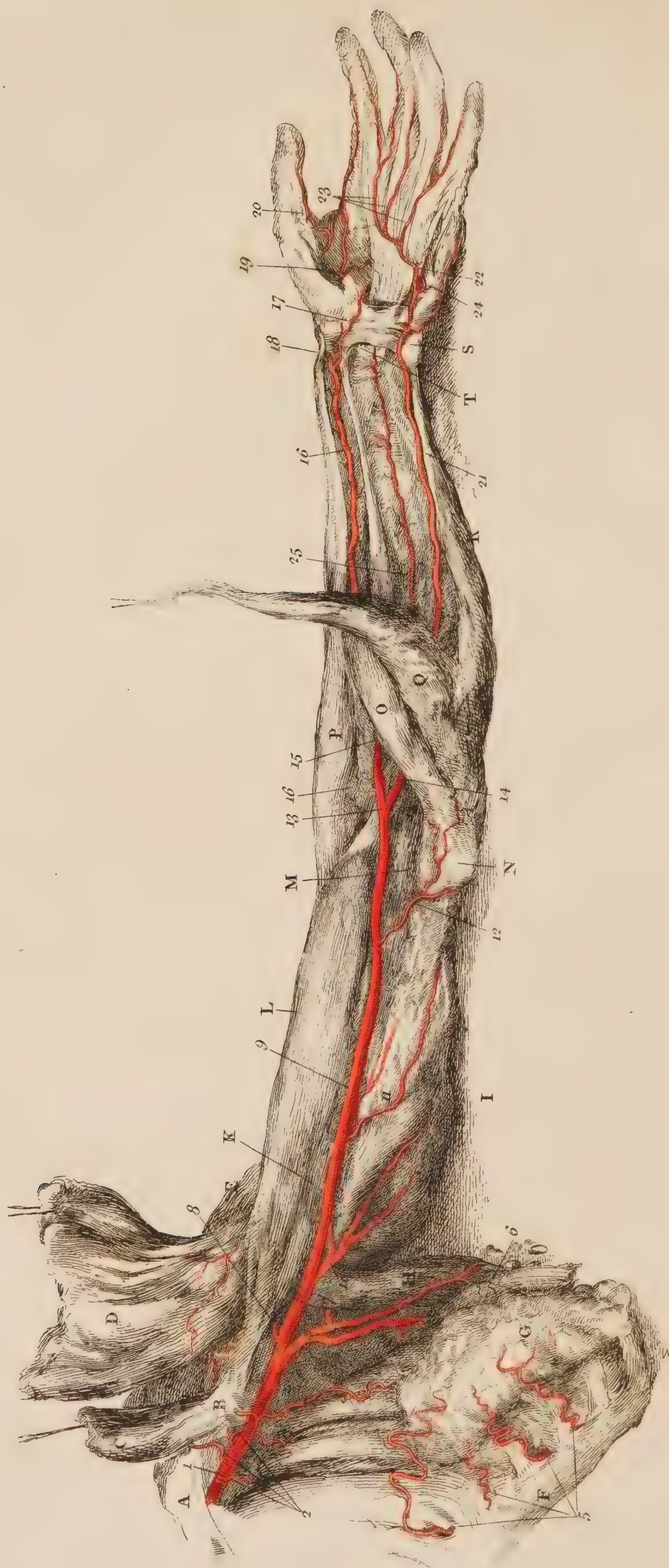
8. The **MIDDLE ARTERY OF THE BRAIN** passing into the **FISSURA SILVII**.
9. The **ANTERIOR ARTERY** of the **CEREBRUM**.

BRANCHES OF THE VERTEBRAL AND BASILAR ARTERIES.

10. The **POSTERIOR ARTERY** of the **CEREBELLUM** from the Vertebral Arteries.

11. A very considerable branch of the Basilar Artery to the pons Varolii and cerebellum, which however has no name.
12. The ANTERIOR ARTERY of the CEREBELLUM.
13. The Posterior Artery of the Cerebrum.

The lesser branches of vessels seen in this Plate are not distinguished by any particular name.



EXPLANATION

OF

PLATE VIII.

THE ARTERIES OF THE ARM.

- A. The CLAVICLE.
- B. The CORACOID PROCESS of the Scapula.
- C. The PECTORALIS MINOR.
- D. The PECTORALIS MAJOR.
- E. The DELTOIDES seen in part.
- F. The STERNUM.
- G. The MAMMA lying on the Ribs.
- H. The LATISSIMUS DORSI.
- I. The TRICEPS EXTENSOR CUBITI.
- K. The CORACO-BRACHIALIS.
- L. The BICEPS FLEXOR CUBITI.
- M. The BRACHIALIS INTERNUS.
- N. The Inner Condyle of the Humerus.
- O. The PRONATOR TERES.

- P. The SUPINATOR LONGUS.
 Q. The Mass of Flexor Muscles dissected up.
 R. The FLEXOR CARPI ULNARIS.
 S. The Pisiforme Bone.
 T. The Tendons of the Fingers..

ARTERIES.

1. The SUBCLAVIAN ARTERY.*

- The Extent of the AXILLARY ARTERY is from 1 to 9.†
- | | |
|---|---|
| { | 2. Three Thoracic Arteries.
3. The long Thoracic Artery
or EXTERNAL MAMMARY Artery.
4. SUBSCAPULAR ARTERY. |
|---|---|
5. Branches of the Internal Mammary Artery coming through the interstices of the Cartilages of the Ribs.‡

* To cut for the Subclavian Artery, I recommend the incision to be begun an inch from the inner head of the clavicle; then carry it in a direction slightly deviating from the line parallel with the clavicle, towards the acromion scapulæ. The second incision cuts the fibres of the pectoralis major, where they arise from the clavicle; here we come upon a thick bed of cellular membrane, which being lifted, we find the great subclavian vein, with the cephalic vein joining it; under this vein, and a little further backward (more under the clavicle,) we find the Artery.

† If we have to turn up the edge of the pectoralis major, to tie the axillary artery, we find the artery on the inside of the coraco brachialis; the external cutaneous nerve is on the outside of the artery, the radial nerve on the inside and the muscular spiral below it; the vein is betwixt the artery and the muscle; higher up in the axilla the artery is involved in the plexus.

I need not repeat, that in these descriptions of the exact seat of the arteries I intend that they should enable the surgeon to avoid them, as well as to cut upon them and take them up. By attending to the above circumstances I cut a ragged ball out from behind the artery and nerves without hurting either. *Laceration of this Artery.* GOOCH.—*White's Cases by Gunshot.*—*Principles of Surgery*, 292.

‡ These arteries are here particularly large and tortuous, implying, that before the woman's death, the gland had been in a state of activity; probably she was a nurse.

6. Branches from the Subscapular Artery to the Mamma.*
7. The POSTERIOR CIRCUMFLEX ARTERY coming in this example from the Subscapular Artery.
8. The ANTERIOR CIRCUMFLEX ARTERY.
9. 9. The BRACHIAL or HUMERAL ARTERY.
10. The SUPERIOR PROFUNDA.
11. The LESSER PROFUNDA.
12. An Artery called R^s. ANASTAMOTICUS MAGNUS.
13. The BRACHIAL ARTERY at its bifurcation.†
14. The ULNAR ARTERY.
15. The RADIAL ARTERY.
16. 16. The RADIAL ARTERY.‡

* Thus we see that in the operation of extirpating the cancerous breast, arteries will throw out their blood from all the sides of the gland, chiefly however from 3 and 6.

† Oblique wound of the humeral artery from without. *Principles of Surgery*, vol. i. p. 431. To find the *Humeral Artery* before coming so low down as this, we may make the patient bend the other arm against a force, in order to throw the expansion of the Biceps Muscle. Having marked its place, we refer it to the wounded arm, and make an incision along the inner edge of the Biceps muscle, or rather, I may say, just where it begins to throw off its tendinous expansion, that is, two fingers breadth from the inner condyle of the os humeri; carry the knife upwards. We do not immediately find the artery, but the Radial Nerve covering the artery; laying the nerve aside, we find the artery lying betwixt its two Venæ Comites.

For the operation of Aneurism here, and the nature of the tumor formed by pricking the artery at the bend of the arm, see *Operative Surgery*, vol. i. Aneurismal Varix, see *Medical Observations and Inquiries*. Wounded in bleeding in the arm, cured by compression by Bourdelot, see *Principles of Surgery*, vol. i. p. 205. Spontaneous cure, *Medical Facts*. Lacerated in violent exertion, from Saviard. *Principles of Surgery*, vol. i. p. 372. Case of wound by fractured humerus, *ibidem*, 340. I have found on dissection that the surgeon had included the Radial nerve in the ligature of the humeral artery. I have found on dissection that the surgeon had put the ligature about the Radial nerve, mistaking it for the humeral artery.

‡ To find the Radial Artery in its course one-third down the arm,—cut on the inner edge of the *supinator longus*, first through the thin fascia—then

17. The branch of the Radial Artery called *Superficialis Volæ*.
18. The RADIAL ARTERY where it is passing under the tendons of the Extensors of the Thumb.
19. The deep Palmar Arch formed principally by the Radial Artery.
20. The A^a. MAGNA POLLICIS, a branch of the Radial Artery.
21. The ULNAR ARTERY lying within the Flexor Carpi Ulnaris.*
22. The PALMAR ARCH formed by the Ulnar Artery.
23. The Branches called digitales from the Superficial Palmar Arch.

lift the edge of the muscle, and under a second fascia you find the Radial artery, passing over the tendon of the *pronator teres*.

1. To take up the radial artery on the wrist, we cut a quarter of an inch from the Radial edge of the *Flexor Carpi Radialis*. A fascia covers the artery here. A small nerve (from the *external cutaneous*) runs above the fascia. N. B. The insertion of the *Supinator Radii Longus* is on the outside, but flat, giving no mark outwardly. The *Extensor Primi Internodii Policis* comes obliquely over the head of the Radius, and the insertion of the *Supinator*.

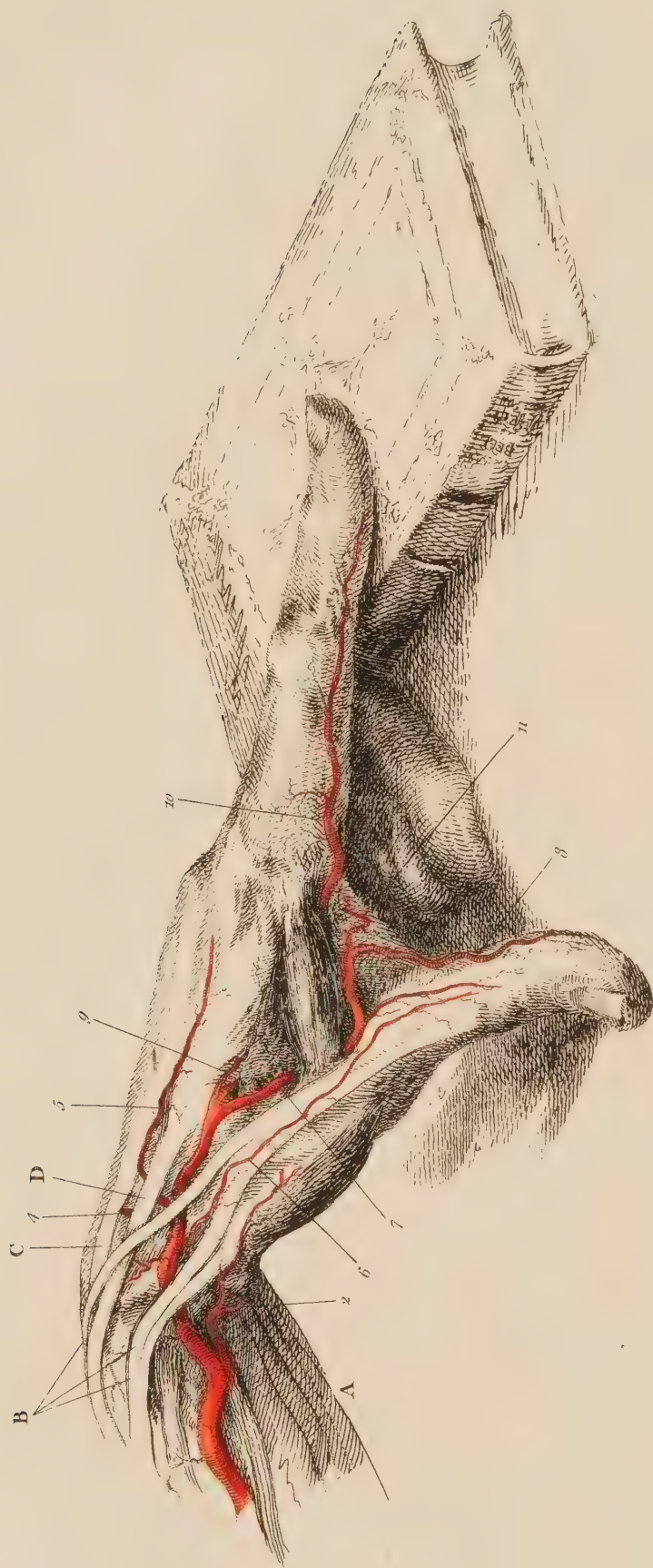
Wound of the Radial Artery. *White's Cases*. Artery stopt by compression. *Sculditus*. A very bad operation by O'Halleran. Correctly performed. *Operative Surgery*, vol. ii. 351. *Principles of Surgery*, vol. i. p. 190. Radial Artery wounded in opening an abscess. *Operative Surgery*, vol. ii. p. 346. Arm amputated for wound of the Radial Artery, from O'Halleran. *Principles of Surgery*, vol. i. p. 191.

* *Ulnar Artery*. In the middle of the fore arm the artery lies under the fascia, and under the margin of the *Flexor Ulnaris* and *Flexor Digitorum Sublimis*, rather more under the margin of the last. To tie the artery, we should have to cut down betwixt these muscles. The *Ulnar Nerve* lies on the ulnar edge of the artery.

Ulnar Artery tied for wound of the palm. *Principles of Surgery*, 183.

Ulnar Artery wounded by gunshot, stops with slight compression. *Operative Surgery*, vol. ii. p. 341; in a second case, *ibidem*. Case of wound of Radial and Ulnar Arteries by gunshot, *ibidem*, p. 353. *ibidem*, p. 345.

24. The deep Anastamosing branch of the Ulnar Artery which goes under the tendons of the palm to unite with 19, and form the deep Palmar Arch.
25. The ARTERIA INTEROSSEA, a branch of the Ulnar.
(14.)



Drawn by C. Heyne.

Etched by C. Bell.

THE ARTERIES OF THE HAND.

EXPLANATION

OF

PLATE IX.

-
- A. The *Flexor Tendons*.
 - B. The EXTENSOR PRIMUS, SECUNDUS, TERTIUS, POL-
LICIS.
 - C. The Tendon of the EXTENSOR CARPI RADIALIS BRE-
VIOR.
 - D. The Tendon of the EXTENSOR CARPI RADIALIS LON-
GIOR.
 - 1. The Radial Artery before turning from the wrist.
 - 2. The branch to the wrist and palm of the hand, called
SUPERFICIALIS VOLÆ.
 - 3. The Radial Artery where it lies under the extensor tendons
of the thumb, and where it is in its progress to the
back of the wrist.*

* To cut for the Radial Artery, when it has passed from the fore part of the wrist, we carry the knife on the outside of the insertion of the *Extensor Primi Internodii Policis*, and the inside of the *Extensor Tertii Internodii Policis*. Betwixt these tendons the artery lies very deep, and over it the extreme branch of the *Muscular Spiral Nerve*. We find the artery passing in the notch, betwixt the os scaphoides and the trapezium. This artery tied, see *Operative Surgery*.

4. The DORSALIS CARPI.
5. DORSALIS METACARPI.
6. DORSALIS POLLICIS.
7. The ARTERIA MAGNA POLLICIS.
8. The Artery continued along the Thumb.
9. The deep division of the Radial Artery, where it gives off the Anastomosing branch, which, with a branch of the Ulnar Artery, forms the deep arch of the Palm.
10. The Radialis Indicis.
11. The Smaller Artery to the forefinger, from the A. Magna Pollicis. This is sometimes the larger branch to the fore-finger.



Drawn by C. Bell.

Etched by J. Stewart.

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EXPLANATION

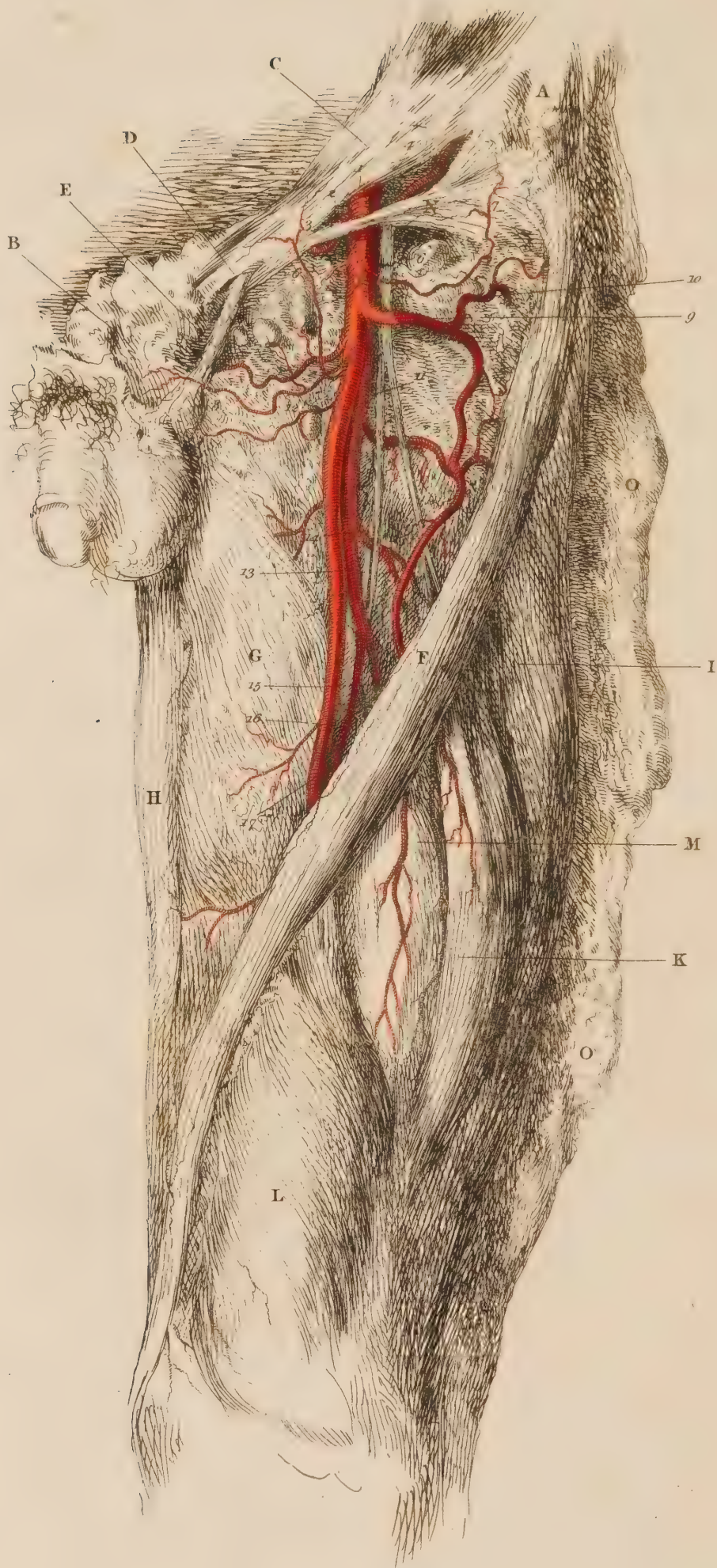
OF

PLATE X.

THE MESENTERIC ARTERIES.

- A.A. The OMENTUM held up, and bearing the great Arch of the Colon.
- B. The termination of the INTESTINUM ILEON in the Caput Coli.
- C. CAPUT COLI.
- D.E. The ARCH of the COLON, which stretches across the belly.
- F. The SIGMOID FLEXURE of the COLON.
- G. The RECTUM.
- H. The BLADDER of URINE.
1. The AORTA.
 2. The CÆLIAC ARTERY.
 3. The root of the UPPER MESENTERIC ARTERY.
 4. The great Lash of Arteries which go to the small intestines.
 5. The ILEO-COLIC ARTERY.
 6. The RIGHT COLIC ARTERY.
 7. The MIDDLE COLIC ARTERY.
 8. The LOWER MESENTERIC ARTERY.

9. The LEFT COLIC ARTERY; this forming a great inos-
culation betwixt the Upper and Lower Mesenteric
Arteries.
10. The HÆMORRHOIDAL ARTERY descending with the
Rectum into the Pelvis.
11. The EMULGENT ARTERY of the left side.
12. The SPERMATIC ARTERY.
13. The MIDDLE SACRAL ARTERY.
14. The COMMON ILIAC ARTERY.
15. The EXTERNAL ILIAC ARTERY.
16. The INTERNAL ILIAC ARTERY.



Etched by C. Bell.

ARTERIES OF THE THIGH.

EXPLANATION

OF

PLATE XI.

Being a View of the Arteries of the fore part of the Thigh.

- A. The Upper and Anterior Spinous process of the OS ILII.
- B. The PUBES.
- C. The Tendon of the EXTERNAL OBLIQUE MUSCLE of the Abdomen.
- D. The ABDOMINAL RING, as it is called.
- E. The SPERMATIC CORD.
- F. The SARTORIUS MUSCLE; it is displaced a little, towards the outside.
- G. The TRICEPS ADDUCTOR FEMORIS.
- H. The GRACILIS.
- I. The VASTUS EXTERNUS.
- K. The RECTUS FEMORIS.
- L. The VASTUS INTERNUS.

M. The CRURÆUS.

N. The Anterior Crural Nerve. It lies on the outside of the Femoral Artery (not more superficial than the artery.)

O.O. The Integuments hanging loose.

ARTERIES.

1. ARTERIA ILIACA EXTERNA.*

Its branches are, { 2. A^a. Epigastrica,† and from this sometimes the next artery.
3. A^a. Obturatoria.
4. A^a. Circumflexa Ilii.‡

* To see this artery the tendon of the abdominal muscles is slit. It is of consequence to observe the place of this artery: its distance from the points of bone at A and B, and the possibility of cutting through the tendon and thrusting up the Peritoneum, so as to tie it, as in Mr. Abernethy's operation. See *Surgical Observations on Local Diseases and on Aneurisms*, by John Abernethy, p. 230: *Operative Surgery*, vol. i. tit. of *Tying the External Iliac Artery*.

† *Epigastrica*. This artery passes in a direction towards the *Rectus Abdominis*, behind the Spermatic Cord; it is consequently behind the neck of the Sac in *Bubonocoele*. Though rarely, yet sometimes it happens, that the Hernia comes down behind the Spermatic Cord, or nearer to the Pubes, or even so as to split and separate the Vas deferens from the other Spermatic Vessels; in this case the Epigastric Artery lies on the inside of the Sac. I have seen this artery cut in the operation for Hernia. It has been opened in the operation of *Paracentesis Abdominis*, and the patient lost by a hæmorrhage into the belly.

Very often a considerable branch of this artery courses along the edge of the Poupart ligament, towards the Pubes. Its common distribution is thus:

1. To the cord and cremaster muscle.
2. Towards the back of the os pubis.
3. Principal branch ascending upon the rectus.
4. Inosculating with the Internal Mammary.

For the Anatomy see *Tabul. Eustach.* xxv. No. ii. 37. *Inosculation*, tab. xxvii. xii. *Haller Fascic*, v. p. 8. *Note 2. Fascic IV.* No. 12. *Murray, Descrip. Arter. in Tabulas*, p. 89. II. *Anatomy of the Heart and Arteries*, by John Bell.

‡ *Obturator Artery*. We see here what would be the situation of the *Obturator Artery*, if a Hernia should descend under Paupart's ligament in a person having this distribution of the Vessel. See *Mr. Cooper's work on Hernia*.

5. ARTERIA CRURALIS.* Its branches are:

- 6.6. Rami Inguinales.
- 7. Ramus major.†
- 8. Arteriæ pudendæ.‡
- 9. Circumflexa Externa.

This artery, marked 9, coming from the Femoral Artery, belongs, in a general arrangement of the arteries, to the Profunda, but I have represented it as it was in the subject, because it is not unfrequently thus.

10. The proper external Circumflex Artery.

11. The A^a. PROFUNDA FEMORIS.§ Its branches are :

- ^a Irregular branches.
- ^b 12. *Circumflexa Interna*.
- ^c 13. *Great descending internal branch.*||
- ^d *Transverse or External Division*, which in this subject came off from the great femoral (9) and which therefore affords the
- ^e *Descending Exter. Branch.*
- ^f *Circumflexa Externa*, and

* *Arteria Cruralis*, fatal wound. See *History of the Arteries*, *Anat. of Human Body*, by John and Charles Bell.—Gun-shot wound of this artery. *Principles of Surgery*, vol. i. p. 275.—Lacerated by attempting to lift a heavy weight, *Duncan's Commentaries*.

† Any of these Inguinal Branches being cut near to their origin, may bleed a patient (already perhaps reduced, as by mercury) to death.

‡ The largest of these *External Pudic Arteries*, gives out its blood freely when cut in the operation of Scrotal Hernia, or Extirpation of the Testicle.

§ *Profunda Femoris*. For the history of this piece of anatomy, see *Mr. John Bell's Principles of Surgery*, vol. i. p. 251, & seq. and plates, p. 253, 256. the imperfections of *Eustachius's*, tab. xxv. xxvi. uncorrected by *Albinus*, has been the cause of the neglect of this artery.

* || *Internal branch*. We ought to observe the course of this artery before

14, 15, 16. The Perforating Arteries. These are the branches of the division 13, they pass through the triceps, and appear among the hamstring muscles.

17. The Continued Femoral Artery, or ARTERIA SUPERFICIALIS FEMORIS.* Its branches are few, trifling, and irregular, to the parts it passes. The trunk lies betwixt the tendons of the *triceps* G. and the *vastus internus* L. and inclines backward and inward, until it perforates the tendon of the Triceps Muscle.

SUPERFICIAL FEMORAL ARTERY has three branches.

1. *Irregular Branches to the neighbouring parts.*
2. *Rs. Anastamoticus Magnus.* This is the first considerable branch which the Femoral Artery gives off; viz. while

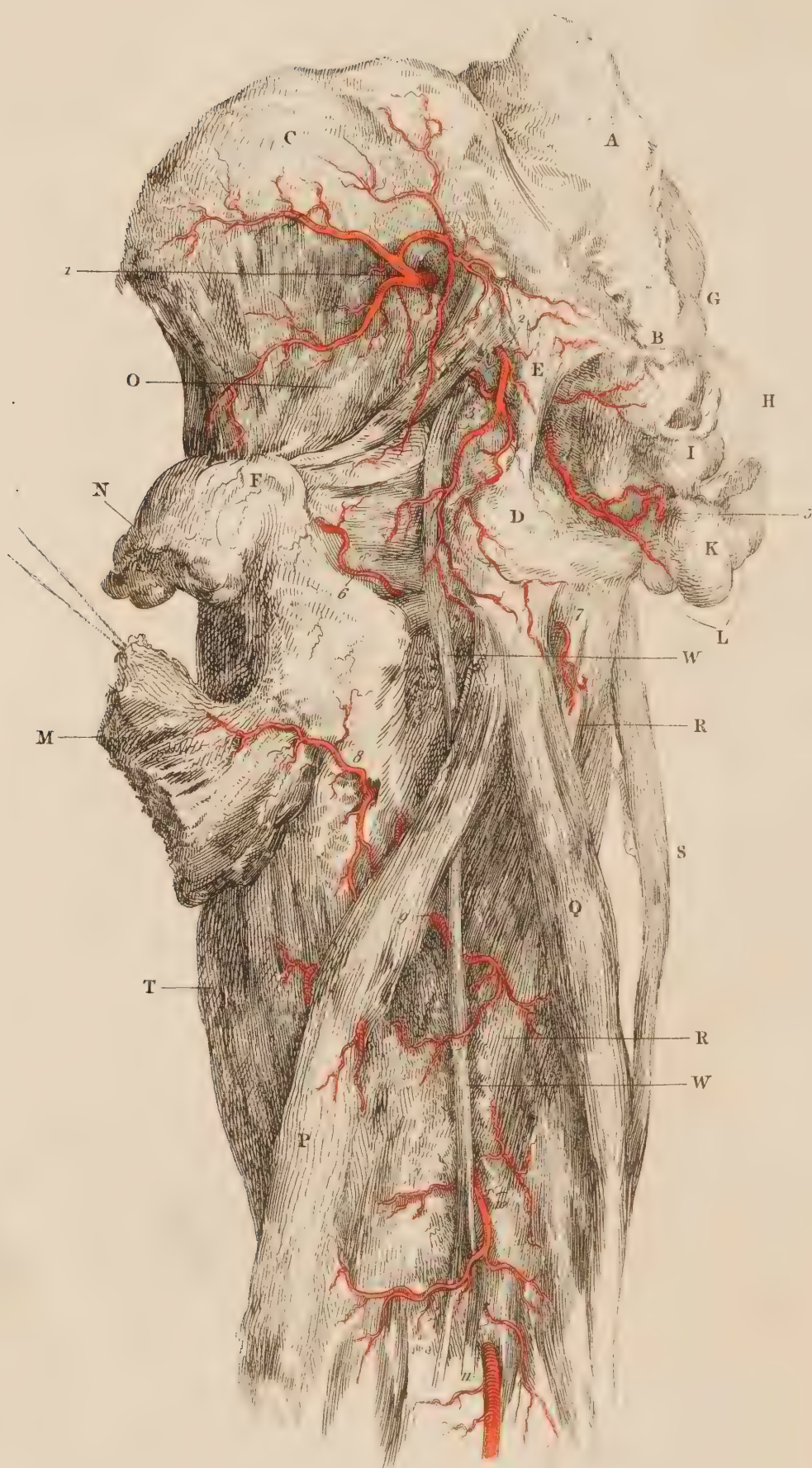
the triceps muscle and its great size. I have known it give way in the ulceration of a gun-shot wound in the thigh. The hemorrhagy was so great that it was conceived it must be from the superficial femoral artery, and amputation was about to be performed, but on undoing the tourniquet, the bleeding did not return. It takes the same general course, but is deeper in the thigh than the femoral artery.

* *Superficialis.* This artery, near the place of its perforating the triceps, is the subject of one of the most important surgical operations, the operation for popliteal aneurism. In dissection it may be well to make this experiment: place a string so as to reach from the superior spine of the os Illii to the prominent part of the inner Condyle, mark the middle of the string, make an incision a very little towards the inside of it, in the direction of the string; first you come to the Sartorius Muscle, next laying that aside, to a fascia, which stretches from the *triceps* to the *vastus internus*; when this is slit up, you may see the artery—observe its situation in regard to the *vein*, the *nervus longus*, and the *sheath* which surrounds it. This artery, where it passes the triceps, wounded by a splinter of the bone. *Principles of Surgery*, vol. i. p. 370, plate p. 373. Lacerated by the action of the muscles, p. 321. Wounded by gun-shot, p. 397, from *Severinus*. Wounded by the point of scissors, p. 390.—Wounded with a knife, and suddenly fatal. *Anatomy of the Human Body*, by John and Charles Bell, vol. i.—Wounded by scissors. *Medical Observations and Inquiries*.

concealed in the tendon of the triceps. After the artery has dipped from the fore part of the thigh, but has not yet emerged behind, or become popliteal, it gives off branches which are improperly called perforantes.

I enumerate these under the term,

3. *Irregular Popliteal Branches*, to the hamstring muscles and their tendons.



ARTERIES OF THE HIP AND HAM.

EXPLANATION

OF

P L A T E X I I .

*Representing the Dissection of the Hip and back part of the
Thigh.*

-
- A. The os Sacrum.
 - B. The os Coccygis.
 - C. The os Ilii.
 - D. The os Ischii.
 - E. The Sacro-Ischiatic Ligament.
 - F. The Trochanter major.
 - G. The Rectum.
 - H. The Bladder of Urine.
 - I. The Prostate Gland.
 - K. The Bulb of the Urethra.
 - L. The Crura Penis.

MUSCLES.

- M. The GLUTEUS MAXIMUS.
- N. The GLUTEUS MEDIUS.
- O. The GLUTEUS MINIMUS.
- P. The BICEPS FLEXOR CRURIS.
- Q. The SEMI-MEMBRANOSUS.
- R. R. The TRICEPS FEMORIS.
- S. The GRACILIS.
- T. The VASTUS EXTERNUS.
- W. The SACRO-ISCHIATIC NERVE.

ARTERIES.

1. ARTERIA GLUTEA.* It is seen here coming out from under the Sacro-ischiatic notch, and immediately dividing into these branches:

- a. Muscular branches within the pelvis and at its exit.
- b. R^s. Superficialis: viz. under the gluteus maximus.
- c. R^s. Ascendens: viz. under the gluteus medius.
- d. R^s. Transversus: viz. under the gluteus medius, and forward.

* *Gluteal Artery.* An Aneurism from a wound of this artery, in consequence of a man sitting down with large shears in his pocket, which ran into his hip. *Discourses on Wounds, by Mr. John Bell.*—A Case by Professor Jeffery, where the patient died by the bursting of the tumour. See *Principles of Surgery*, vol. i. p. 424. In

2. ARTERIA ISCHIATICA.*

Within the pelvis, and in its passage out, this artery branches to the bladder, rectum, and neighbouring muscles: on the back of the pelvis, to the glutei, to the great nerve, to the lesser muscles of the thigh bone, in many profuse branches.

3. ARTERIA PUDICA COMMUNIS,† where it is seen on the back of the Pelvis. It enters again under the Ischiatic ligament.

In case of a wound of this artery, and the consequent formation of a false Aneurism, the Surgeon, after puncturing the tumour, has to push his finger deep amongst the blood until he arrive at the trunk, as it turns over the notch of the Ilium—Compressing it there, he may gain time.—For this reason I wish to point my readers' attention to the place where the trunk turns over the bone.

* *The Ischiatic Artery* being equally liable to accident with the Gluteal Artery, it may be well to look to the subject after the following description of its place.

To hit upon the ischiatic artery as it comes out from the pelvis, begin the incision by the side of the sacrum, three fingers' breadth from the posterior spinous process of the ilium; and carry it down in the length of the fibres of the gluteus maximus, to the outside of the tuberosity of the ischium. Even in a thin man, the artery lies two inches deep. Now, pushing in the finger as if under the sacrum, we there feel the acute edge of the sacro-sciatic ligament; on the lower margin of the sacro-sciatic hole, (which is distinctly felt with the finger amongst the looser parts,) the artery is felt crossing the ligament obliquely; near it, upon its outer side, are some lesser nerves; the great sciatic nerve is removed an inch from it.

† *The Pudic Artery.* The branch which is seen in the Plate to cross the Perineum, is necessarily cut in the operation of *lithotomy*. Often I may venture
to

4. The PUDICA COMMUNIS, where it is on the inside of the os Ischii. Here the artery divides into these branches :

- a. Hemorrhoida Externa.
- b. Perinea Superficialis.
- c. Transversalis Perenei.
- d. Profunda Penis.

from which last comes off

- e. The Superficialis Penis.
- f. The Artery of the Bulb.
- g. The deep Artery of the Cavernous Substance.

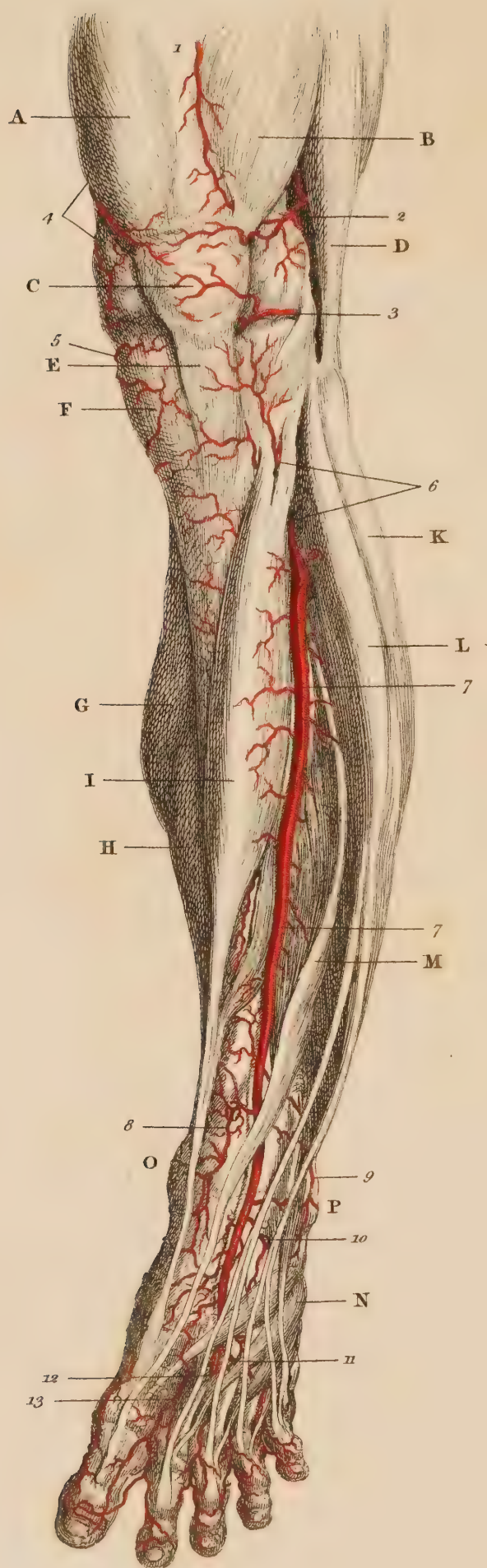
- 5. Is the artery entering the Bulb of the Spongy body of the Urethra.*
- 6. A Branch of the ARTERIA CIRCUMFLEXA INTERNA, inosculating with the Gluteal Artery.
- 7. A branch of the OBTURATORIA. It inosculates with the Ischiatic Artery.
- 8. A large perforating Artery, a branch of the Profunda.
- 9. Another large perforating Artery—from the Profunda.
- 10. A Third Perforating Artery.

to say the principal artery, where it lies close on the bone, is cut in this operation. See *Operative Surgery*, vol. i. where *the Artery of the Bulb* enters (at 5), I am pretty certain that it has been opened by the caustic, in a case of Stricture, since I have been consulted by a patient, after repeated Hemorrhage, for three weeks after the caustic had been applied. See my *Letters on the Diseases of the Urethra*.

* Betwixt the Branches of Arteries, 2, 6, 7, 8, 9, there are free inosculation which preserve the limb alive, though the main artery be tied on the fore part of the Thigh or in the Groin : see some observations on the Course of Circulation when the main artery is tied. *Operative Surgery*, vol. ii.

11. ARTERIA POPLITEA* or main artery of the limb after coming through the tendon of the Triceps muscle.
-

* *Arteria Poplitea*, Wounded by a Sabre: *Principles of Surgery*, p. 328.
Wounded by the sharp projection of the femur after fracture: *Operative Surgery*, vol. ii. 357.



EXPLANATION

OF

PLATE XIII.

ARTERIES OF THE LEG.

MUSCLES, &c.

- A. THE VASTUS INTERNUS.
- B. THE VASTUS EXTERNUS. Betwixt these two muscles
is the tendon of the RECTUS FEMORIS.
- C. THE PATELLA or knee-pan, on each side of which are
seen the CONDYLES of the FEMUR.
- D. THE BICEPS FLEXOR CRURIS.
- E. THE LIGAMENT of the PATELLA.
- F. THE HEAD OF THE TIBIA.
- G. THE GASTROCNEMIUS.
- H. THE SOLEUS.
- I. THE TIBIALIS ANTICUS.
- K. THE PERONEUS LONGUS.
- L. THE EXTENSOR DIGITORUM COMMUNIS.
- M. THE EXTENSOR POLLICIS.
- N. THE EXTENSOR BREVIS DIGITORUM PEDIS.
- O. THE MALLEOLUS INTERNUS or lower head of the
Tibia.
- P. THE MALLEOLUS EXTERNUS, being the extremity of
the Fibula.

ARTERIES.

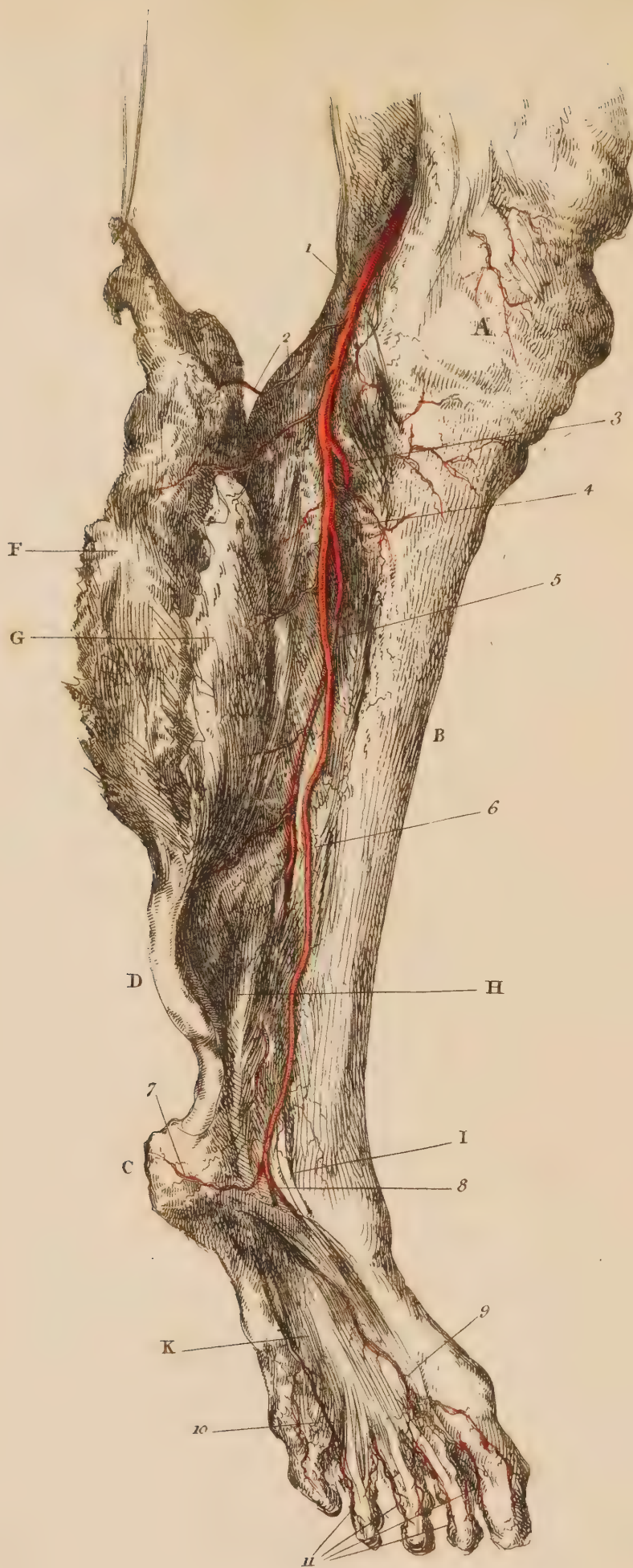
(Arteries encircling the knee joint:)

1. *Arteria Superior Patellæ.* (Haller).
2. *Articularis Superior Externa.*
3. *Articularis Inferior Externa.*
4. *Articularis Superior Interna.*
5. *Articularis Inferior Interna.*
6. *Recurrrens Tibialis.*
7. 7. *ARTERIA TIBIALIS ANTERIOR*, many branches are seen going off from this artery to the *Tibialis Anticus* muscle and the Extensors of the toes.*
 . *Malleolaris Interna.*
9. *Malleolaris Externa.*
10. *Tarsea.*
11. *Metatarsa.*
12. *Ramus Arteriæ tibialis Anastamoticus.* This is the great anastamosing branch of the *tibialis* descending to unite with the tarsal arteries in the sole of the foot. It passes betwixt the metatarsal bones of the great toe, and that which is next to it.
13. *Ramus Dorsalis Pollicis* or *Halucis.*

* *Arteria tibialis Anterior.* This artery lies so under the projection of the Tibia, that it is not often wounded; yet it may be cut by a deep wound, and the student ought to observe how it lies under the Fascia and muscles.

“ The Anterior Tibial Artery comes through betwixt the bones, one inch below the projection of the knob of the Fibula. To find it, we cut through the strong fascia which is extended betwixt the Tibia and Fibula; we then cut by the edge of the *Peroneus longus*, and follow the partition fascia which is betwixt this muscle and the head of the *Extensor Digitorum Communis*. This partition carries us deep, and we find the artery lying on the interosseous ligament.”

When the artery is to be tied lower down, after slitting up the fascia, we must cut betwixt the *Tibialis Anticus* I. and *Extensor Pollicis* M.



EXPLANATION

OF

PLATE XIV.

*This Plate exhibits the Arteries on the back part of the Leg
and Sole of the Foot.*

- A. The inside of the knee.
- B. The TIBIA.
- C. The heel, or *os calcis*.
- D. The TENDO ACHILLIS, being the tendon of the following
muscles, viz.
- E.F. The GASTROCNEMIUS MUSCLE.
- G. THE SOLEUS MUSCLE.

ARTERIES.

1. The Popliteal Artery.*
-

* *Popliteal Artery.* Wounded on the fractured end of the femur: *Operative Surgery.* Wounded by a splinter of the tibia: *Principles of Surgery,* under the head of *Aneurism.*

2. The branches of the Popliteal Artery, called *Surales*.
They go to the heads of the Gastrocnemius Muscle.

N. B. The Articular Arteries are concealed here. They are five in number; two *Superior Articular Arteries*, which encircle the joint, two *Inferior Articular Arteries*, which encircle the lower part of the joint, and one which is irregularly distributed to the back of the knee joint.

3. *Anterior tibial Artery*.
4. The division of the artery into the posterior tibial and fibular arteries.
5. The *Fibular Artery*.*
6. The *posterior Tibial Artery*.†

* To cut for the *Fibular Artery*.

“To find this artery, two hands’ breadth from the heel, cut betwixt the Gastrocnemius and the Peroneus Longus, *i. e.* on the out-side of the Gastrocnemius where it is becoming tendinous; turn up the edge of the tendon; you then find the Flexor Pollicis covered with its sheath.

“If you seek for the Fibular Artery by going deep in the leg without piercing this Fascia, or sheath, you find the Tibial Nerve, and may come on the Tibial Artery. To find the Fibular, then, we cut down by the side of the bone (Fibula) and raise the fibrous origins of the Flexor Pollicis. We then find the artery by the acute edge of the bone lying on the Interosseous Ligaments, accompanied only by its *venæ comites*.”

† *Posterior Tibial Artery*. To take up the Posterior Tibial Artery:

“For complicated wounds in the sole of the foot, this artery may require to be taken up behind the Ankle-Joint, and before it pierces under the Abductor Pollicis Pedis. We shall be directed to the exact place by observing the lowest projecting part of the Tibia. The tendons which run close upon this tuberosity of the bone, are the Tibialis Posticus, and Flexor Communis; the first lies so closely braced to the bone in its particular sheath, that it will not be observed; the artery runs a little nearer the heel than the tendon of the Flexor Communis, a Fascia braces down the artery, and the nerve is under the Artery.”

Operative Surgery, vol. ii. page 337—8.

7. *Calcanea*, a branch of the posterior tibial artery to the heel.
8. The division of the *Posterior Tibial Artery*, into the Plantar Arteries.
9. The *Internal Plantar Artery*.
10. The *External Plantar Artery*.
11. The division of the last to the toes.

FINIS.

